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PCT

03500.017320.

PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
TAKESHI ICHIKAWA ET AL. )  
Application No.: 10/516,545 )  
Filed: December 2, 2004 )  
For: ELECTRON-EMITTING DEVICE )  
AND MANUFACTURING )  
THEREOF )  
Examiner: NYA  
Group Art Unit: NYA  
July 28, 2005

Mail Stop  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO-1449. Copies of non-U.S. patent documents are also enclosed.

For the concise explanation of relevance for non-English documents 4-131846, 8-96704, 8-264109, and 2001-202870, the Examiner is respectfully referred to the English Abstracts attached thereto.

For the concise explanation of relevance for non-English document 8-96703, the Examiner is respectfully referred to the English Abstract attached thereto and to counterpart U.S. Patents 5,939,823 and 5,989,404.

For the concise explanation of relevance for non-English document 2001-6523, the Examiner is respectfully referred to the English Abstract attached thereto and to counterpart U.S. Patent 6,861,790.

For the concise explanation of relevance for non-English document 2001-101966, the Examiner is respectfully referred to the English Abstract attached thereto and to counterpart U.S. Patent 6,650,061.

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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JUL 29 2005

APPLICANT

TAKESHI ICHIKAWA ET AL.

Date Submitted to PTO:[DATE]

FILING DATE

DECEMBER 2, 2004

GROUP

NYA

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,663,559	5/87	Christensen	313	336	
	5,939,823	8/99	Kiyomiya et al.	313	495	
	5,989,404	11/99	Kiyomiya et al.	205	96	
	6,288,494	9/01	Tsukamoto et al.	315	169.1	
	6,583,582	6/03	Ichikawa	315	169.3	
	6,583,553	6/03	Sasaguri	313	495	
	6,650,061	11/03	Urayama et al.	315	169.3	
	6,683,408	1/04	Ichikawa	313	495	
	2004/0251812 A1	12/04	Fujiwara et al.	313	495	
	6,861,790	3/05	Iwasa et al.	313	346	

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	8-96703	4/96	Japan			Abstract
	2001-6523	1/01	Japan			Abstract
	2001-101966	4/01	Japan			Abstract
	4-131846	5/92	Japan			Abstract
	8-96704	4/96	Japan			Abstract
	8-264109	10/96	Japan			Abstract
	2001-202870	7/01	Japan			Abstract

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

Forest, R.D., et al., *A Study of Electron Field Emission as a function of film thickness from amorphous Carbon Films*, Applied Physics Letters, Vol. 73, No. 25, pp 3784-3786 (1998)

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ATTY DOCKET NO.  
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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	Ding, Xing-zhao, et al. <i>Electron Field Emission from Ti-containing Tetrahedral Amorphous Carbon Films Deposited by Filtered Cathodic Vacuum Arc</i> , Journal of Applied Physics, Volume 88, No. 11, pp. 6842-6847 (2000)
	Li, Y.J., et al., <i>Field Emission from Cobalt-containing Amorphous Carbon Composite Films Heat-treated in an Acetylene Ambient</i> , Applied Physics Letters, Volume 77, No. 13, pp. 2021-2023 (2000)
	Forbes, Richard G., <i>Low-macroscopic-field Electron Emission from Carbon Films and other Electrically Nanostructured Heterogeneous Materials: Hypotheses about Emission Mechanism</i> , Solid-State Electronics 45 pp. 779-808 (2001)
	Lau, S.P., et al., <i>Field Emission from Metal-containing Amorphous Carbon Composite Films</i> , Diamond and Related Materials 10, pp. 1727-1731 (2001)
	Bajic, S., et al., <i>Enhanced Cold-cathode Emission Using Composite Resin-Carbon Coatings</i> , J. Phys., D: Appl. Phys. 21, pp. 200-204)
	Burden, A.P., et al., <i>Field Emitting Inks for Consumer-priced Broad-area Flat-panel Displays</i> , J. Vac. Sci. Technol. B 18(w), pp. 900-904 (1999)

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DATE CONSIDERED

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